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Energy to Serve Your World™

LCV-1216

June 3, 1998

Docket No. 50-425

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555

**VOGTLE ELECTRIC GENERATING PLANT
LICENSEE EVENT REPORT 2-98-3
LIGHTNING STRIKE LEADS TO TURBINE/REACTOR TRIP**

Ladies and Gentlemen:

In accordance with the requirements of 10 CFR 50.73, Southern Nuclear Operating Company hereby submits a Vogtle Electric Generating Plant licensee event report for a Unit 2 event which occurred on May 8, 1998.

Please contact this office if you have any questions.

Sincerely,

J. D. Woodard

JDW/TEW/njs

Enclosure: LER 2-98-3

cc: Southern Nuclear Operating Company
Mr. J. B. Beasley, Jr.
Mr. M. Sheibani
SNC Document Management

U. S. Nuclear Regulatory Commission
Mr. L. A. Reyes, Regional Administrator
Mr. D. H. Jaffe, Senior Project Manager, NRR
Mr. J. Zeiler, Senior Resident Inspector, VEGP

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NRC FORM 386 (4-95)		U.S. NUCLEAR REGULATORY COMMISSION			APPROVED OMB NO. 3150-0104 EXPIRES: 04/30/98 ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS MANDATORY INFORMATION COLLECTION REQUEST: 50.0 HRS. REQUIRED LESSONS LEARNED ARE INCORPORATED INTO THE LICENSING PROCESS AND FED BACK TO INDUSTRY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-6 F33), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.					
LICENSEE EVENT REPORT (LER)										
FACILITY NAME (1) Vogtle Electric Generating Plant - Unit 2					DOCKET NUMBER (2) 05000425			PAGE (3) 1 OF 3		
TITLE (4) LIGHTNING STRIKE LEADS TO TURBINE/REACTOR TRIP										
EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER(S)
05	08	98	98	003	010	06	03	98		05000425
OPERATING MODE (9) 1			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR (Check one or more) (11)							
POWER LEVEL (10) 100			20.2201(b)		20.2203(a)(2)(v)		50.73(a)(2)(i)		50.73(a)(2)(viii)	
			20.2203(a)(1)		20.2203(a)(3)(i)		50.73(a)(2)(ii)		50.73(a)(2)(x)	
			20.2203(a)(2)(i)		20.2033(a)(3)(ii)		50.73(a)(2)(iii)		73.71	
			20.2203(a)(2)(ii)		20.2033(c)(1)		X 50.73(a)(2)(iv)		OTHER	
			20.2203(a)(2)(iii)		50.36(c)(1)		50.73(a)(2)(v)		Specify in Abstract below or in NRC Form 366A	
			20.2203(a)(2)(iv)		50.36(c)(2)		50.73(a)(2)(vii)			
LICENSEE CONTACT FOR THIS LER (12)										
NAME Mehdi Sheibani, Nuclear Safety and Compliance								TELEPHONE NUMBER (include area code)		
								AREA CODE		
								706 826-1320		
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)										
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS
B	F	K	X	F	M	R	G	0	8	0
SUPPLEMENTAL REPORT EXPECTED (14)										
YES (If yes, complete EXPECTED SUBMISSION DATE)						X NO		EXPECTED SUBMISSION DATE (15)		
ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-space typewritten lines) (16)										
<p>On May 8, 1998, a thunderstorm was in progress. At 0401 EDT, a lightning strike on phase A of the West MacIntosh 500 kV line resulted in damage to the phase A main step-up transformer in the low voltage switchyard. The damage to the transformer actuated a protection relay, which, in turn, tripped the main generator. This resulted in an automatic turbine/reactor trip. The main feedwater system isolated and the auxiliary feedwater (AFW) system actuated, as designed. Control room operators acted to throttle AFW flow to the steam generators and the unit was stabilized in mode 3 (hot standby).</p> <p>The turbine/reactor trip was caused by a main generator trip resulting from the damage to the phase A main step-up transformer. A spare step-up transformer was placed into service and the unit was returned to power on May 14, 1998.</p>										

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
Vogtle Electric Generating Plant - Unit 2	0 5 0 0 0 4 2 5	9 8	- 0 0 3	- 0 0	2	OF	13

TEXT (If more space is required, use additional copies of NRC Form 368A)(17)

A. REQUIREMENT FOR REPORT

This report is required per 10 CFR 50.73 (a)(2)(iv) because an unplanned actuation of the reactor protection system occurred.

B. UNIT STATUS AT TIME OF EVENT

At the time of this event, Unit 2 was in Mode 1 (power operations) at 100 percent of rated thermal power. There was no inoperable equipment that contributed to the occurrence of this event.

C. DESCRIPTION OF EVENT

On May 8, 1998, a thunderstorm was in progress. At 0401 EDT, a lightning strike on phase A of the West MacIntosh 500 kV line resulted in damage to the phase A main step-up transformer in the low voltage switchyard. The damage to the transformer actuated the sudden pressure protection relay, which, in turn, tripped the main generator. This resulted in an automatic turbine/reactor trip. The main feedwater system isolated and the auxiliary feedwater (AFW) system actuated, as designed. Control room operators acted to throttle AFW flow to the steam generators and the unit was stabilized in mode 3 (hot standby). No safety system anomalies were noted. The NRC Operations Center was notified of this event at 0519 EDT.

D. CAUSE OF EVENT

The phase A main step-up (25 kV to 500 kV) transformer sustained internal damage as a result of the lightning strike to the phase A West MacIntosh 500 kV line. The internal damage to the transformer actuated the sudden pressure protection relay that tripped the main generator, which, in turn, resulted in a turbine/reactor trip.

E. ANALYSIS OF EVENT

The protective relaying responded as designed to trip the main generator when experiencing a transformer fault, and the reactor protection system responded as designed to trip the turbine and the reactor. Control room personnel acted appropriately to stabilize the unit in Mode 3. Based on these

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Vogtle Electric Generating Plant - Unit 2		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		OF	
	0 5 0 0 0 4 2 5	9 8	- 0 0 3	- 0 0	3		3

TEXT (If more space is required, use additional copies of NRC Form 366A)(17)

considerations, there was no adverse affect on plant safety or on the health and safety of the public as a result of this event.

F. CORRECTIVE ACTION

- 1) Main generator field windings were inspected with no significant anomalies found.
- 2) A spare step-up transformer was placed into service and the unit was returned to power on May 14, 1998.

G. ADDITIONAL INFORMATION

- 1) Failed Components:
25 kV main step-up transformer manufactured by General Electric Company.
Part #439204.
- 2) Previous Similar Events:
LER 50-424/1988-025, dated August 25, 1988.
LER 50-424/1995-002, dated August 18, 1995.
Corrective actions for these LERs centered on improving ground protection after lightning strikes interrupted power to the control rod drive mechanisms, leading to reactor trips.
- 3) Energy Industry Identification System Code:
Main and Unit Auxiliary Transformers - FK
Main Feedwater System - SJ
Auxiliary Feedwater System - BA
Main Turbine System - TA
Electrohydraulic Control System - TG

CATEGORY 1

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9806100108 DOC.DATE: 98/06/03 NOTARIZED: NO DOCKET #
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AUTH.NAME AUTHOR AFFILIATION
SHEIBANI,M. Southern Nuclear Operating Co.
WOODARD,J.D. Southern Nuclear Operating Co.
RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 98-003-00:on 980508,lightning strike leads to turbine
reactor trip.Caused by main generator trip.Spare step-up
transformer was placed into service & unit was returned to
power on 980514.W/980603 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED:LTR \ ENCL \ SIZE: 4
TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

NOTES:Application for permit renewal filed.

05000425 G

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